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Supplemental Material

Season of Conception, Smoking, and Preeclampsia in Norway

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- Figure S1. Unadjusted smoothed rates and fitted adjusted relative rates of birth with PE for time before (a,b) and time after (c,d) 34 weeks gestation in Norway. The smoothed curve in a and c is based on a moving average of outcomes that uses a window encompassing plus and minus 30 days from each day of the year, thus estimating the fraction with PE among pregnancies conceived at each day of the year. The fitted relative rates shown in b and d are based on the first harmonic (sine and cosine) fit separately to each of the two gestational age categories, gestational age < 34 weeks (b), and gestational age \geq 34 weeks (d), with models that are adjusted for the covariates: maternal age, maternal age squared, education, primiparity, smoking (in 3 categories), marriage status, region (in 3 categories) and interaction between primiparity and region. The curve shown is based on entering the preterm-category-specific mean for all covariates, centering the estimated log hazard ratio and then exponentiating it.

Figure S2. Overall unadjusted smoothed rate and fitted first harmonic adjusted relative rate of birth with PE based on analysis that excluded foreign-born mothers. A revision of Figure 1 in the paper based on analysis that excludes foreign-born mothers. The smoothed curve in Figure a is based on a moving average of outcomes

that uses a window encompassing plus and minus 30 days from each day of the year, thus estimating the fraction with PE among pregnancies conceived at each day of the year. The fitted relative rate shown in Figure b is based on the first harmonic (sine and cosine) fit to a model that is adjusted for maternal age, maternal age squared, education, primiparity, smoking (in 3 categories), marriage status, region of Norway, and interaction between primiparity and region. The curve shown is based on entering the mean for all covariates, centering the estimated log hazard ratio and then exponentiating it.

Figure S3. Overall fitted first harmonic adjusted relative rate of PE based on MICE results. A revision of Figure 1b based on averaging over 50 MICE results. The fitted relative rate shown is based on the first harmonic (sine and cosine) fit to a model that is adjusted for maternal age, maternal age squared, education, primiparity, smoking (in 3 categories), marriage status, region of Norway, and interaction between primiparity and region. The curve shown is based on entering the mean for all covariates, centering the estimated log hazard ratio and then exponentiating it. The solid curve is based on MICE results and the dotted curve represents the original curve in Figure 1b.

Figure S4. Overall unadjusted smoothed rate and fitted adjusted relative rate of PE when modeling the seasonal effects using time of birth instead of time of conception. The smoothed curve in a is based on a moving average of outcomes that uses a window encompassing plus and minus 30 days from each day of the year, thus estimating the fraction with PE among births at each day of the year. The fitted relative rate shown in b is based on the first harmonic (sine and cosine) fit to a logistic model that is adjusted for maternal age, maternal age squared, education, primiparity, smoking (in 3 categories), marriage status, region of Norway, and interaction between primiparity and region. The curve shown is based on entering the mean for all covariates, centering the estimated log odds ratio and then exponentiating it.